

VASIL'YEVA, O.A.; GOLUBEVA, L.G.; DUBININ, M.M.; YEGOROVA, Ye.N.;
SHISHAKOVA, T.N.; UL'KO, N.G.

Adsorption properties and maximum adsorption volumes of
synthetic zeolites of types A and V. Zhur. prikl. khim.
37 no.10:2158-2165 0 '64. (MIRA 17:11)

CONFIDENTIAL

Examination of the titrimetric method for determination of
the amount of the active ingredient in the sample.

The sample was weighed and dissolved in a known volume of water. The solution was then titrated with a standard solution of sodium hydroxide. The endpoint was determined by the appearance of a pink color. The results of the titration are shown in the table below.

Sample	Volume of NaOH (ml)	Concentration of NaOH (M)
1	10.0	0.1
2	12.5	0.1
3	15.0	0.1

The results show that the amount of the active ingredient in the sample is 1.0 mg.

M. Hosh

GOLUBEVA, L.I.

Clinical aspects and treatment of essential tremor. Och.klin.nevr.
no.1:173-182 '62. (MIRA 15:9)

(TREMOR)

I 22061-66 EWT(1)/ENT(m)/ETP(n)-2/T/ETP(t) IJP(c) JD/JN/JG/CG
ACC NR: AP6009642 SOURCE CODE: UR/0181/66/008/003/0680/0683

AUTHOR: Golubeva, L. A.; Pchelinskaya, S. N.; Smiryagina, S. A.; Shishelov, A. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: On the influence of x-irradiation on certain properties of lithium-fluoride single crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 680-683

TOPIC TAGS: lithium fluoride, single crystal, x irradiation, color center, crystal defect, dielectric loss, crystal lattice vacancy

ABSTRACT: The purpose of the investigation was to establish a connection between the change in the volumes of the cells of LiF crystals and the occurrence in these crystals of processes which change the dielectric losses. To this end, single crystals of LiF were exposed to x-rays at doses ranging from 2.1 to 86.7 micro-roentgen and their dielectric constant and capacitance measured with an ac bridge (60--20 kcs). The results showed that the crystal lattice constant increased even with the smallest x-ray dose, indicating that irradiation produces not only the appearance of color centers but also of lattice defects which increase the losses.

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ACC NR: AP6009642

The accompanying decrease in density (measured by a flotation method) can be shown to be due only to a change in the lattice volume. The increase in the lattice constant and the change in the loss angle due to the irradiation are briefly discussed from the point of view of formation of vacancies as a result of ionization. The decrease in conductivity leads to a decrease in the dielectric losses. The authors thank B. P. Konstantinov for help with the work. Orig. art. has: 3 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 002/ OTH REF: 007

Card 2/2

Golubeva, L.S.

PHASE I BOOK EXPLOITATION

SOV/4508

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy, vyp. 3: Metallovedeniye titana (Titanium and Its Alloys, No. 3: Metal Science of Titanium) Moscow, Izd-vo AN SSSR, 1960, 161 p. Errata slip inserted. 2,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: N.V. Ageyev, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: M.L. Podgoyetskiy; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This collection of articles is intended for scientific research workers and metallurgical engineers.

COVERAGE: The articles summarize results of experimental studies of titanium-base alloys. The microstructure and mechanical properties of titanium-base alloys containing aluminum, chromium or other metals are analyzed along with the effect of oxygen, hydrogen and heat treatment on alloy structure and properties. The tendency of titanium alloys to embrittlement as a result of strain

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Titanium and Its Alloys (Cont.)

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aging is emphasized, and the nitriding of titanium, carried out to increase the surface strength and wear resistance of titanium alloys, is described. Transformations occurring in commercial titanium under conditions of electric heating are examined. Attempts to develop titanium-base alloys capable of withstanding temperatures over 400°C are discussed as are problems of titanium-powder metallurgy and weldability of certain titanium-base alloys. No personalities are mentioned. Most of the articles have bibliographic references, the majority of which are Soviet.

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GOLUBEVA, L.S.

126100

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2/13/66/00/00/03/015/010
201/4535

AUTHORS: Timoshenko, N.N., Borok, R.A., Petukhov, Y.Y.,
Shchegoleva, E.P., and Golubeva, L.S.

TITLE: Titanium Based Metalloceramic Alloys

PERIODICAL: Vestnik metallov, 1960, No. 3, pp. 50-74, (USSR)

ABSTRACT: The branch of Powdered Metallurgy of the Central Iron and Steel Scientific Research Institute, produces titanium based alloys in the form of sintered strips up to 80 kg which are worked into rods, sheets, strips, plates and wire. At present, emphasis is being placed on the production of metalloceramic alloys. The alloys contain titanium (Ti-6Al) and cerium, zirconium, niobium, vanadium, iron, manganese, tin and niobium. The Institute is briefly described. The influence of the mechanical properties of Ti-6Al alloy (strength at +20 and +400°C, reduction in area, elongation at +20 and -60°C) is shown in the plot, Fig. 1. Of the titanium alloys for the production of sheets the most systematic investigation was carried out for the ternary system Ti-Al-V. The alloy Ti-6Al (Ti + 3% Al + 5% V) is

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being produced; the properties of this alloy are given in Table 1. The mechanical properties of an alloy of Ti + 4% Al + 2% V (Ti-6Al) are given in Table 2. The production of sheets for operation at elevated temperatures (600 to 900°C) properties are given in Table 3. Alloys for the production of hot rolled tubes, forgings, and stamping (Ti-6Al and Ti-6Al-2V) composition as given in Table 4, after hot working by pressure, possess the structure of metastable β phase with a small amount of α phase. This makes it possible to limit thermal treatment, namely, annealing of forged and hot rolled metal. The diagrams of the mechanical properties of the alloy on annealing temperature (200 to 600°C) is shown in Fig. 3. The heat resistant alloy (Ti-6Al) is a β component metalloceramic alloy (cerium, zirconium, niobium) and was developed for forging and stamping. The dependence of its mechanical properties on temperature is plotted in Fig. 4. Titanium alloys possessing the best strength and plasticity for the stamping of parts by stamping (with minimum subsequent machining) were

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found to belong to binary systems of Ti-V and Ti-Zr and ternary alloys of the above system with aluminum. Their compositions and mechanical properties are given in Table 5. Properties of γ phase of heat resistant alloys of the Ti-Al system are briefly described. Data on the hardness of this type of alloy and data on the hardness of the alloy Ti-6Al (Fig. 5) are given. Alloying of the alloy Ti-6Al with 5% niobium leads to a decrease in the strength and a decrease in strength with increasing temperature. A 1% decrease in strength with increasing temperature is observed. After gravity (about 3.5 g/cm³) and the properties of improving, their mechanical properties of alloys, since they are suitable for the development of heat resistant alloys. Their properties are given in Table 6. References, 3 of which are 201, 453, 454, 455.

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E073/E535

AUTHORS: Golubeva, L. S. and Shchegoleva, R. P., Engineers
TITLE: Structure and Mechanical Properties of High Alloy Titanium Alloys
PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No.4, pp.28-30 + 1 plate
TEXT: The authors studied the cause of changes in the mechanical properties of the following two medium alloyed titanium alloys after heat treatment:

Table 1

No. of alloy	Contents in %			
	Fe	Mn	Cr	Al
1	3	3	3	-
2	3	-	5	3

X

These alloys are designed for manufacturing forgings and hot rolled tubes. The structure of the alloys after forging,
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broaching or rolling is a three-phase one: $\beta + \alpha + \omega$. The quantity of the ω -phase is small and therefore it is not always detected on X-ray diffraction patterns. Under certain conditions eutectoidal transformations and also formation of metastable, β and ω phases are observed. Blanks for the investigations were produced by powder metallurgy methods from titanium powder containing 0.12% Fe, 0.074% Si, 0.12% Ni, 0.022% Al, 0.052% Ca, 0.003% H, 0.18% O, 0.01% N. The sintered blanks were forged into 16 mm diameter rods at 1000 to 700°C. Since titanium alloys of the binary systems Ti-Fe, Ti-Cr, Ti-Mn belong to the eutectoidal systems, the authors considered it of interest to establish the proneness of these alloys to embrittlement after annealing at 400, 500 and 600°C for 100 hours. The mechanical properties of forged rods and rods annealed at 700 and 800°C after heating for 100 hours at 400, 500 and 600°C are given in Table 2, each figure representing the average values of 5 tests. It can be seen from Table 2 that with increasing heating temperature the plasticity of alloy 2 decreases, whilst that of alloy 1 increases. The strength of the forged alloy 1 after 100 hours at 400, 500 and

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Structure and Mechanical Properties... E073/E535

600°C decreases, whilst its ductility increases; this is attributed to an increase in the quantity of the α -phase. Heating of the alloy 1 for 100 hours at 400, 500 and 600°C leads to the transformation $\beta + \alpha + \omega \rightarrow \beta + \alpha$. The strength of the annealed alloy 1 after heating for 100 hours at 400-600°C changes insignificantly, but its ductility increases in the case of heating temperatures of 400 and 500°C and decreases for a heating temperature of 600°C. The increased ductility is attributed to an increase in the quantity of the α -phase, which also increases as a result of ageing. The ageing curves of the two alloys after quenching in water from 900°C are plotted in Fig.2, the top graph relates to alloy 1, the bottom graph to alloy 2. These curves indicate that both alloys contain a β stabilizer above the critical value. Whilst at ageing temperatures of 200, 300 and 400°C the rejection of the ω -phase only is observed, in the case of ageing at 500°C formation of the ω -phase followed by formation of the α -phase was observed. There are 2 figures, 2 tables and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: TsNIChM

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Table 2

Alloy № Номер сплава		Heat Treatment Режим термической обработки	Mechanical Properties Механические свойства				
			R _c	σ _b	σ _s	δ	ψ
1	Forged Кованный	400°, 100 час. нагрев.	44	163,6	157,6	0,4	2,4
		400°, 100 час. нагрев.	46	167,0	163,4	4,2	6,1
		500°, 100 час. нагрев.	40	130,6	129,2	8,0	12,4
		600°, 100 час. нагрев.	38	122,3	120,4	19,2	26,3
	Annealed Отжиг	700°, 1 час. нагрев.	37,5	129,1	126,1	12,0	17,0
		400°, 100 час. нагрев.	39	129,0	126,5	9,2	11,3
		500°, 100 час. нагрев.	38	130,3	129,7	17,0	31,6
		600°, 100 час. нагрев.	37,5	127,6	126,2	2,0	1,4
	Annealed Отжиг	800°, 1 час. нагрев.	30,5	131,7	128,8	7,2	10,1
		400°, 100 час. нагрев.	38,5	132,0	127,7	15,2	21,8
		500°, 100 час. нагрев.	37,5	128,0	121,5	16,2	23,3
		600°, 100 час. нагрев.	37	125,1	120,0	10,0	15,1

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Structure and Mechanical Properties.. E073/E535

Table 2 cont.

2	Forged					
	Кованный					
	400°, 100 час. hours	43	139,7	137,1	9,0	14,8
	500°, 100 час. hours	44	170,0	166,1	1,2	2,0
	600°, 100 час. hours	42	143,4	142,1	1,0	4,3
		41	143,7	131,0	3,2	7,0
	Annealed					
	Отжиг					
	800°, 1 час. hour	38,5	121,2	118,4	15,8	20,1
	400°, 100 час. hours	41				
	500°, 100 час. hours	39,5	133,5	—	2,0	11,2
	600°, 100 час. hours	39	130,3	—	4,4	6,6

Отрыв головок - Fracture of the heads

X

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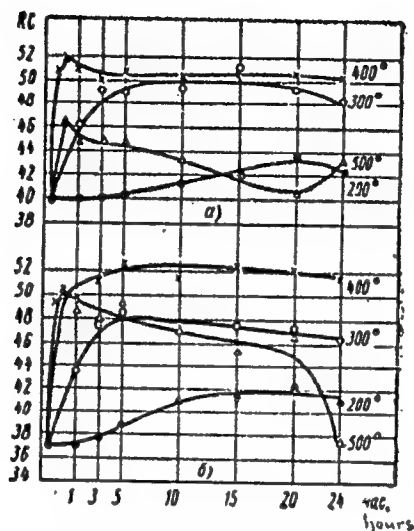
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Structure and Mechanical Properties..

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Fig.2



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24194

S/129/61/000/007/008/016
E073/E535

181285

AUTHORS: Shcherbakova, R.P., Golubava, L.S. and Ruch'eva, N.A.,
Engineers

TITLE: Embrittlement of titanium-chromium alloys during
eutectoidal transformation

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
1961, No.7, pp.35-36 - 1 plate

TEXT: The diagram of state of the Ti-Cr system is character-
ized on the titanium side by a two-phase region $\alpha + \beta$ and a
eutectoidal transformation ($\beta \rightarrow \alpha + \text{TiCr}_2$) (Refs.1 and 2: P. Duwez,
Taylor, I.L., TASM, v.44, 1952; A. D. McQuillan, Journal Institute
of Metals, v.80, 1951-1952, respectively). This occurs at
670-675°C and the speed of transformation is extremely slow
(Ref.3: Bagryatskiy, Yu.A., Nosova, G.I., Tagunova, T.V.,
Zhurnal neorganicheskoy khimii: AN SSSR, vol.3, issue 3, 1958).
The structure of hypoeutectoidal alloys remains metastable ($\alpha + \beta$)
even after annealing. Heating of alloys in the ($\alpha + \beta$) state
below the eutectoidal transformation temperature may bring about
a decomposition of the β -phase, which is accompanied by embrittle-
ment. The authors studied the influence of long duration holding
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Embrittlement of titanium-chromium ... S/129/61/000/007/008/016
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at 300 to 600°C on the mechanical properties and the structure of Ti-Cr alloys. Commercially pure titanium IMP-1A was used (composition: 0.21% Fe, 0.062% Si, 0.16% Ni, 0.05% N, 0.03% C, 0.05% Ca and 0.2% O). The alloys were produced by powder metallurgy methods. The investigations were made on forged 16 mm diameter rods, which were held for one hour at 730°C, cooled in the furnace and, following that, heated additionally for durations of 1 to 300 hours at 300, 350, 400, 450, 500 and 600°C. It can be seen from the obtained results, which are tabulated, that heating at 300°C for 100-200 hours does not bring about a change in the mechanical properties. Heating at 350°C for 200-300 hours results in a slight decrease in plasticity, i.e. the contraction decreases to 14.3 and 16.1%, respectively from 19.9% in the annealed state. Only a slight increase in strength and hardness were observed. Increase in the heating time at 400°C from 25 to 200 hours leads to a drop in plasticity, the contraction decreasing from 20.9 to 9.9%. The most pronounced embrittlement occurs at 450, 500 and 600°C: holding for one hour at 600°C brings about a drop in the contraction by a factor of 2. The

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authors considered it of interest to study the changes in the microstructures which are associated with embrittlement. The shape of the rejected particles of the α -phase depends on the temperature conditions of the deformation: an "acicular" structure corresponds to terminating the forging above 800°C, a "granular" structure corresponds to a termination of the forging below 700°C. Microstructure photographs are reproduced of an alloy with 5% Cr and an "acicular" structure after annealing and after additional holding at 500°C for 100 hours; the additional holding at this temperature produces darkened sections of the β -phase. X-ray structural investigations (carried out by Candidate of Technical Sciences T. V. Tagunova) have shown that in the annealed state the alloy has a two-phase $\alpha + \beta$ structure. After additional holding at 350°C for 100 hours, the β -phase lines become weaker and at 500 to 600°C they cease completely. No lines of the corresponding intermetallic $TiCr_2$ compound were detected in this case. The microstructures of alloys with 10, 15 and 20% Cr revealed darkened β -phase sections after annealing, followed by subsequent heating, whereby for alloys with a higher chromium

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Embrittlement of titanium-chromium...

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concentration a eutectoidal structure could be observed. In this case the X-ray patterns revealed lines corresponding to the $TiCr_2$ compound which were most clearly visible on alloys with 15 and 20% Cr. In these alloys eutectoidal β -phase decomposition is accompanied by an appreciable increase in hardness. Table 2 shows the hardness of alloys with 10 to 20% Cr.

Table 2

Chromium content in %	H_{RC} after annealing at 1000°C	H_{RC} after anneal- ing at 600°C for 100 hours
10	32	34
15	37	39
20	39	43

The data given prove that embrittlement of an alloy containing 5% Cr after long duration soaking below the eutectoidal temperature is due to eutectoidal β -phase transformation. Absence of lines corresponding to the $TiCr_2$ compound in an alloy containing 5% Cr is explained by the inadequate sensitivity of the X-ray method. There are 3 figures, 2 tables and 3 references:

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24.94

Embrittlement of titanium-chromium S/129/61/000/007/008/016
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1 Soviet and 2 non-Soviet.

ASSOCIATION: TsNIICM

[Abstractor's Note: This is a complete translation except that
Table 1 and microphotographs have not been
included.]

X

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38677
S/598/62/000/007/018/040
D290/D307

12.12.85
AUTHORS: Kornilov, I. I., Mikheyev, V. S., Pylayeva, Ye. N., Volkova, M. A., Borok, B. A., Shchegoleva, R. P. and Golubeva, L. S.

TITLE: The effect of aluminum on the structure and properties of a Ti-Al-Cr-Fe-Si-B alloy prepared by powder metallurgy.

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 130-134

TEXT: The authors studied the effect of varying amounts of Al in Ti-Al alloys (1 - 7% by weight Al) and in alloys of the Ti-Al-Cr-Fe-Si-B system (1.5 - 12% by weight Al) on the structure and properties of the alloys. Strength of the Ti-Al alloys increased from 77.2 to 107-3 kg/mm² as the Al content rose from 0 to 7%; the strength of alloy AT4 (AT4) increased from 104 to 142 kg/mm² as the Al content rose from 1.5 to 10%. Plasticities of the alloys decreased and the heat resistance of AT4 increased as the aluminum

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2
The effect of aluminum ...

S/598/62/000/007/018/040
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contents became higher. The rate of oxidation of AT4 in air at 700°C decreases by about 60% as the Al content rose from 5 to 12% by weight. There are 4 figures and 4 tables.

X

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1 8408
S/598/62/000/007/019/040
D290/D307

12.12.85

AUTHORS: Kornilov, I. I., Pylayeva, Ye. N., Volkova, M. A.,
Sorok, B. A., Shchegoleva, R. P. and Golubeva, L. S.

TITLE: The effect of silicon on the properties of a 6-component
alloy of the system Ti-Al-Cr-Fe-Si-B prepared by powder
metallurgy

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego
splavy: no. 7, Moscow, 1962. Metallokhimiya i novyye
splavy, 136-139

TEXT: The authors studied the effect of varying amounts of silicon
in Ti-Si alloys and in alloys of the system Ti-Al-Cr-Fe-Si-B on
the properties of the alloys, in order to find the optimum Si con-
centration in alloy AT4 (AT4). The mechanical properties were mea-
sured in both the forged and hot worked conditions. The strength
of the Ti-Si alloy increased from 77.2 to 100.8 kg/mm² as the Si
content increased from 0 - 2% while the strength of the alloy AT4
increased from 110 to 138 kg/mm² with the addition of 1.5% Si. Pla-

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The effect of silicon ...

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sticities of the alloys decreased with rising Si content. AT4 containing 0.5% Si withstands a continuous stress of 30 kg/mm² at 500°C for about 100 hours. The corrosion resistance of AT4 at 700°C is approximately doubled by the addition of 0.5% Si. There are 4 figures and 4 tables.

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S/129/63/000/002/006/014
E193/E383

AUTHORS: Borok, B.A., Novikova, Ye.K., Golubeva, L.S.,
Shchegoleva, R.P. and Ruch'yeva, N.A.

TITLE: Dilatometric studies of binary titanium-base alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
no. 2, 1963, 32 - 36

TEXT: Dilatometric curves were constructed in the 20 - 900 °C range for the binary Ti-Fe, Ti-Cr, Ti-Co, Ti-Mo, Ti-V, Ti-Nb and Ti-Ta alloys containing 2-10% of the alloying elements, the constitution of these alloys was determined by metallographic and X-ray diffraction analysis, and the hardness of the alloys after various heat-treatments was measured. Experimental test pieces were prepared by powder metallurgy. No deflection points were observed on the dilatometric curves in the case of specimens annealed by heating to 800 or 900 °C with slow cooling; the slope of the curves was constant, indicating that the coefficients of thermal expansion of the alloys studied in the annealed condition were constant. The hardness of the annealed alloys was either equal to or higher than that of the specimens quenched from the β -range.
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E193/E383

Dilatometric studies

the effect of the alloying-elements content (%) on the hardness (HRC) of the quenched alloys being shown in Fig. 1. The dilatometric curves of alloys with a sufficiently high content of elements stabilizing the β -phase (Fe, Cr, Co) had deflection points in the temperature range of the ω -transformation. The alloy with the critical (4%) concentration of Fe had in the quenched condition a two-phase ($\beta + \omega$) structure and high (RC 51.5) hardness. The dilatometric curve of this alloy showed no contraction associated with the formation of the ω -phase and the expansion due to a reversible $(\beta + \omega) \rightleftharpoons (\beta + \alpha)$ transformation started at 420 and ceased at 490 °C. In the case of the quenched alloy with 6% Fe, consisting of the β - and partially precipitated ω -phases (hardness 44.5), the ω -phase was precipitated completely on heating, as a result of which the hardness of the alloy increased to RC 53; the dilatometric curve showed a contraction associated with the $\beta \rightleftharpoons \omega$ transformation in the 170 - 400 °C range and an expansion in the 475 - 500 °C interval, where the $(\beta + \omega) \rightleftharpoons (\beta + \alpha)$ transformation took place. The hardness of quenched alloys with 8% Fe, consisting of the stabilized β -phase, increased on heating from 41.5 - 53. The small contraction and expansion on the dilatometric curve of

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Dilatometric studies

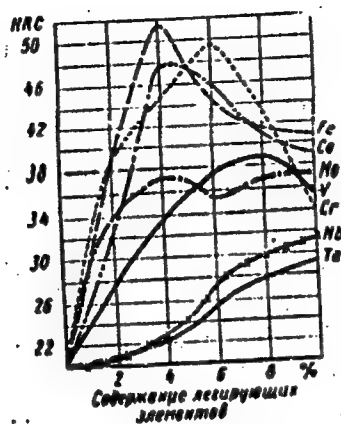
this alloy indicated only a partial precipitation of the ω -phase. Similar effects were observed in the Ti-Cr alloys in which, however, the volumetric changes were less pronounced; the critical Co content was about 3.5% in the case of the Ti-Co alloys. X-ray diffraction analysis showed that quenched specimens of the 4% Co-Ti alloy had a two-phase structure (β - and partially precipitated ω -phase); the precipitation of the ω -phase in this alloy on heating (indicated by an increase in hardness from 48 - 50 RC) was, for some unknown reason, not reflected by deflection points on the dilatometric curve. In the case of the Ti-Mo alloys the volumetric effect was observed in the 10% Mo alloy only, indicating that the ω -transformation did not take place in alloys containing 2 - 8% Mo. No deflection points were observed on dilatometric curves for the Ti-V, Ti-Nb and Ti-Ta alloys. This was attributed to the fact that the ω -phase in these alloys could be formed only at a high concentration of the alloying elements (12 - 13% V, 23 - 30% Nb and 26 - 40% Ta). There are 3 figures and 1 table.

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Dilatometric studies

S/129/65/000/002/006/014
E193/E383

Fig. 1:



Card 4/4

L 288-63 EWP(q)/EMT(m)/BDS--AFFTC/ASD--JD

APPROVED FOR RELEASE: 06/13/2000

APPROVED FOR RELEASE: 06/13/2000

AUTHOR: Borok, B. A.; Golubeva, L. S.; Shchegoleva, R. P.; Ruch'yeva, N. A.

TITLE: Mechanical properties and microstructure of sintered titanium alloys

SOURCE: Poroshkovaya metallurgiya, no. 3, 1963, 88-98

TOPIC TAGS: sintered titanium alloys, mechanical properties, microstructure, grain size, alloying element effect, Fe, Mn, Cr, Mo, Al, V, W, Ta, Nb, Cu, Zr, Co, Ti-Al-V alloy, Ti-Al-V-Mo alloy, coreduction, oxide

ABSTRACT: Several series of binary and ternary alloys of Ti with Al, Fe, Mn, Cr, Mo, W, V, Ta, Nb, Cu, Zr, and Co were sintered from commercial-grade (99.1% pure) Ti powder and powders of 99.6% pure Fe, 99.5% pure Mn, 99.6% pure Cr, 99.54% pure Ni, 99.2% pure Co, electrolytic Ti, 99.9% pure W, 99.65% pure Mo, 99.64% pure V, 98.6% pure Nb, and 99.9% pure Ta. The Ti-Al alloys and the second series of Ti-V alloys were prepared by coreduction of oxide powders with calcium hydride. Sintered specimens had a coarse, acicular microstructure, macrograins about 1 mm in diameter, and a density of 97-99% of the theoretical. The results of mechanical tests (see Figs. 1 and 2 of Enclosure) show that all the alloying elements investigated increase the tensile strength

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7. (2/55) -

L 11288-63

ACCESSION NR: APJ001956

and decrease the ductility of sintered Ti alloys. Only in Ti-V alloys produced by coreduction of oxides does ductility increase with increasing V content. These alloys generally are more brittle than commercial titanium. The strong β -phase stabilizers, Fe, Mn, and Cr, which promote intermetallic trans-formation with the formation of intermetallic compounds, result in the highest increase in tensile strength and decrease in ductility of sintered Ti alloys. Ti-Fe, Ti-Mn, Ti-Cr, and Ti-Ni alloys containing 10-20% of these alloying elements have a metastable $\alpha + \beta$ structure with the amount of β -phase increasing with higher alloying; the α -phase has an atomic high-symmetry structure. Aluminum, an α -phase stabilizer, appreciably increases the strength of sintered Ti-Al alloys without an extensive decrease in ductility. The Ti-V and Ti-Mo alloys have comparatively high tensile strength and ductility. In general, V, Al, and Mo were found to be the best alloying elements for sintered binary Ti alloys. Additional investigation of sintered Ti-10%V alloys (after deoxidation of the oxides) showed the Ti + 10%Al + 1%V alloy to have the best combination of mechanical properties: tensile strength 357.5 Mn/m² (meganeuton per square meter, 1 Mn/m² = 0.1 kg/cm²), elongation 11%, reduction of area 46%, and notch toughness 25.4 joule per cm² (1 joule/cm² = 0.1 m-kg/cm²). An addition of 2% Mo to this alloy increases its tensile strength to 357.5 Mn/m² without lowering ductility. These two alloys are recommended for manufacturing parts by

* Card 2/5 2

ACCESSION NR: AP4040471

S/0226/64/000/003/0059/0063

AUTHOR: Borok, B. A.; Shchegoleva, R. P.; Golubeva, L. S.;
Teplenko, V. G.; Reutova, N. P.; Ruch'yeva, N. A.

TITLE: Properties and microstructure of sintered Kh18N15 stainless steel made by joint reduction method

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 50-63

TOPIC TAGS: stainless steel, sintered stainless steel, carbonyl iron, sintered steel property, steel corrosion resistance, sintered steel structure

ABSTRACT: Investigations have been made of the properties of sintered Kh18N15 chromium-nickel stainless steel made from powder produced by the joint reduction of chromium and nickel oxides mixed with iron powders (Process A) and of steel made from mechanically mixed powders of carbonyl iron, reduced chromium, and electrolytic nickel (Process B). It was found that the density of compacts A was lower than that of B, but the latter had a very low compression strength. Adequate fluidity of powders and strength of compacts

Card 1/3

ACCESSION NR: AP4040471

make powder A a very suitable material for rolling porous strips and sheets in continuous rolling mills. Compacts B sinter more easily than compacts A, but they are much more susceptible to oxidation during the sintering. Compacts A, sintered at 1350C for 10 hr; had a density of 96—97% (compared to 71—85% for compacts B), tensile strength 47.8—53.5 dan/mm², elongation 29.2—43.4% and impact toughness (unnotched specimens) 19.8—29 kgm/cm². Sintered Kh18Ni5 steel has an austenitic structure with a low content of finely dispersed carbides. In the annealed state the steel has a high corrosion resistance; its corrosion rate in boiling 65% nitric acid is 0.1 g/m² · hr compared to 0.2 g/m² · hr for conventionally made X18H15. This is explained by a low content of impurities in powder A. Orig. art. has: 8 tables and 9 figures.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

Cord 2/3

ACCESSION NR: AP4040471

SUBMITTED: 16Feb63

DATE ACQ: 06Ju164

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 005

Cord 3/3

L 2847-66 EWP(e)/EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) LJP(c)
 MJW/JD/WB

ACCESSION NR: AT5022891

UR/2776/65/000/043/0081/0098

AUTHOR: Shchegoleva, R. P.; Reutova, N. P.; Golubeva, L. S.; Poplavskaya, V. L.;
 Kazanskaya, L. N.

TITLE: Powdered-metal stainless chrome and chrome-nickel steels

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy me-
 tallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metal-
 lurgy), 81-98

TOPIC TAGS: powder metallurgy, stainless steel, chromium steel, nickel steel,
 corrosion resistance

ABSTRACT: It is shown that the powders of stainless chrome and chrome-nickel
 steels in the ferritic, austenitic, and martensitic-austenitic classes, prepared
 by the method of the combined reduction of metal oxides by means of CaH_2 , are
 suitable for the industrial fabrication of porous and compact sheets and strips
 by the direct method of powder rolling. The flowsheet of production of these
 powders has the following sequence: raw materials -- iron powder (carbonyl and
 other types of Fe), chromium oxide (Cr_2O_3), nickel (electrolytic, carbonyl)

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ACCESSION NR: AT5022891

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powder or NiO , Ni_2O_3 , calcium hydride (CaH_2); charge blending (2.5 hr); reduction at 1175°C for 6-8 hr, $\text{Cr}_2\text{O}_3 + 3\text{CaH}_2 = 2\text{Cr} + 3\text{CaO} + 3\text{H}_2$; crushing of sinter; slaking with H_2O and pulverization; hydrocyclone treatment of pulp; leaching -- $\text{Ca}(\text{OH})_2 + 2\text{HCl} = \text{CaCl}_2 + 2\text{H}_2\text{O}$; washing to remove CaCl_2 ; centrifuging; vacuum drying, $60-70^\circ\text{C}$. Sintered stainless steels display high physical properties, which warrants recommending them for the fabrication of the elements and devices performing in aggressive media. When pressed under a pressure of 10 t/cm^2 and subjected to deformation and heat treatment, powdered-metal stainless steels are not inferior to steels produced by the smelting method as regards their physical properties and corrosion resistance. Thus, for example, corrosion tests of Kh18Ni15 stainless austenite steel in a 65% solution of boiling HNO_3 demonstrated the high corrosion strength of this steel, not inferior to that of deformed cast steel (corrosion rate $0.1-0.16 \text{ g/m}^2\text{-hr}$). Evidently these good qualities of powdered-metal stainless steels are attributable to the low content of impurities in the powders prepared by the combined oxide reduction method. Orig. art. has: 10 figures, 9 tables.

ASSOCIATION: none

Card 2/3

L 2847-66

ACCESSION NR: AT5022891

SUBMITTED: 00

ENCL: 00

SUB CODE: MM,

NO REF SOV: 007

OTHER: 007

BVK

Card 3/3

L 2679-66 EWP(e)/EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c) MJW/
 ACCESSION NR: AT5022892 JD/HW

UR/2776/65/000/043/0099/0108

AUTHOR: Solov'yeva, Z. V.; Golubeva, L. S.; Shchegoleva, R. P.; Ruch'yeva, N. A.;
 Kudinova, K. G.

TITLE: Investigation of the properties and production conditions of nichrome powder

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metallurgy), 99-108

TOPIC TAGS: nichrome alloy, powder alloy, nonmetallic inclusion, sintering, solid solution, twinning, heat resistant alloy, resistivity

ABSTRACT: In view of the deviations observed in the technological properties of the products fabricated from the powder of Kh20N80 nichrome alloy prepared by the method of the combined reduction of metal oxides with CaH_2 developed by the Central Scientific Research Institute of Ferrous Metallurgy, the authors performed a thorough investigation of the parameters of the process. Gas analyses and metallographic examinations established that nichrome powders obtained at

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ACCESSION NR: AT5022892

oxide-reduction temperatures of 900-1100°C (for 6 hr) contain a considerable amount of non-metallic inclusions, associated with the higher content of oxygen. This condition is corrected (the oxygen content is reduced to the required minimum of 0.4% and the microstructure becomes homogeneous) by raising to 1175°C the reduction temperature and performing reduction for 6-8 hr (6 hr for 219-mm diameter retort and 8 hr for 273-mm diameter retort). However, while the powder prepared at 1175°C for 6-8 hr displays the optimal compactibility, its sinterability is much lower than in powders prepared at lower reduction temperatures (900-1100°C), which evidently is attributable to the activating effect of oxygen as well as to granulometric composition. Since, the oxygen content may not exceed 0.04%, it appears that sinterability can be improved only by altering the granulometric composition of the powder. This composition can be regulated within broad limits by pulverizing the sinter (pulp) for 0.5, 1.0, 1.5, and 2 hr. To evaluate its quality, the powdered-metal nichrome prepared on the basis of the above improvements was subjected to heat treatment and cold working and tested for physical properties. Specimens compacted under a pressure of 6.0-6.8 tons/cm² and sintered at the maximum temperature (1375°C) were found to display the highest ultimate strength and plasticity. Wire of 0.5-2.0 mm diameter fabricated from sintered briquets displays, following its heat treatment (water quenching from

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L 2679-56

ACCESSION NR: AT5022892

870°C), physical properties as high as those of standard nichrome wire. Following its sintering, as well as following its forging in the temperature range 1000-1200°C, the powdered-metal nichrome has the monophasic structure of a nickel-base solid solution with grain boundaries clearly revealed by etching. Following its annealing at 800 or 900°C the nichrome displays the typical structure of nickel austenite; the grain orientation changes and a large number of twins appears. In addition to their high heat resistance and resistance to oxidation at high temperatures, the products fabricated from such nichrome powder display a high resistivity (1.07-1.12 ohm-mm²/m). Orig. art. has: 10 figures, 6 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 007

OTHER: 004

Card

3/3

L 2680-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD
ACCESSION NR: AT5022893

UR/2776/65/000/043/0109/0114

AUTHOR: Shchegoleva, R. P.; Golubava, L. S.; Ruch'yeva, N. A.; Poplavskaya, V. L.
TITLE: Investigation of the microstructure of alloy powders obtained by the
combined reduction method

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metal-
lurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metal-
lurgy), 109-114

TOPIC TAGS: metal powder, alloy powder, nichrome alloy, grain structure

ABSTRACT: The process of the combined reduction of metal powders and oxides by
means of CaH_2 usually takes place in the solid phase, and then the granulometric
composition of the resulting powder is chiefly determined by two factors: 1)
physical properties of raw materials; and 2) the process of agglomeration of the
metal particles (this process takes place in the solid phase for both fine- and
coarse-grained materials). Studies of a large number of industrial batches of the
powder of Kh20N80 nichrome established that distinct structural inhomogeneities
appear only when the technological regimes of production are disregarded. Such

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L 2680-66

ACCESSION NR: AT5022893

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inhomogeneities are manifested in the form of the presence of a second phase although no such phase was revealed by radiographic examination. A microscopic examination of the Sulin and Tula iron powders revealed, along with particles having ferrite structure, isolated particles with ferrite + pearlite structure conditioned by a higher content of C. Such nonuniformity of individual particles as regards C content also persists in Kh18N15 steel. Particles with two-phase structure have been observed in individual industrial batches of Fe-Al master alloy powder which indicates violations of the technological regime of charge blending, mixing, and reduction. The microstructural inhomogeneity of the powder of Kh18N15 steel, conditioned by its content of alloy elements, is greater if the comparatively coarse-grained Sulin and Tula iron powders are used as part of the raw materials. In this case an appreciable amount of α -phase is observed in the microstructure of the large particles. If, on the other hand, this steel, as well as Kh20N80 nichrome alloy, is prepared from fine-grained raw materials, the resulting powders will display some inhomogeneity with respect to the content of alloy elements, owing to their extremely weak ferromagnetic properties. All this, however, is no reason for rejecting the powders as defective, since, being chiefly destined for processing into metallurgical products, they are subjected to sintering, which involves complete homogenization of their composition.

Card

L 2680-66

ACCESSION NR: AT5022893

Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 007

ENCL: 00

OTHER: 000

SUB CODE: MM, IE

RC
Card 3/3

L 20669-66 EWP(a)/EWT(m)/EWP(w)/EPF(n)-2/T/EWP(t)/EWP(k)/ETC(m)-6 TJP(a) JD/YG/

ACC NR: AP6001473

SOURCE CODE: UR/0226/65/000/012/0045/0047

WW/HW/JG/EM

AUTHOR: Shchegoleva, R. P.; Golubeva, L. S.; Litvin, D. F.; Ponyatov-skiy, Ya. G.; Zhirkin, Yu. N.

ORG: Central Scientific Research Institute of Ferrous Metallurgy (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: The Zr-Ti-O-Fe deformable alloy for high-pressure chambers

SOURCE: Poroshkovaya metallurgiya, no. 12, 1965, 45-47

TOPIC TAGS: deformable body, high strength alloy, high alloy steel, coherent scattering, neutron scattering, high pressure chamber, metal forging, ultimate strength

ABSTRACT: Sintered Zr-Ti-O-Fe deformable alloy designed for high-pressure chambers was developed by the authors during neutronographic investigations of materials. The alloy has a composition corresponding to the zero amplitude of coherent scattering for neutrons (53% Zr, 44.95-43.8% Ti, 0.25-0.40% O, and 1.0-2.0% Fe) and to the structure of an unordered solid solution. The ultimate strength of forgings is 130-150 dan/mm². [Based on author's abstract] [NT]

SUB CODE: 11/ SUBM DATE: 04Jun65/ ORIG REF: 005/ OTH REF: 001

Card 1/1 OK

GOLUBEVA, L. V.

USSR/Geology
Caverns

Nov/Dec 48

"The Second Conference on Caves and Caverns,"
L. V. Golubeva, 2 pp

"Iz Ak Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 6

Reports Conference held in Molotov in 1947 under
auspices of Molotov State U, and its Natural Sci
Inst. Lists works presented, and their authors.
States plans for All-Union Conf on Caves and
Caverns to be held in 1949.

25/49T30

COLUBEVA, L. V.

23974 COLUBEVA, L. V. Karstovo-speleogicheskaya stantsiya zapovednika
"Frodural'c". Priroda, 1949, No. 7, S. 87-88.

SO: Letopis, No. 32, 1949.

1. MAKSIMOVICH, G. A.: GOLUBEVA, L. V.

2. USSR (600)

4. Karst

7. Genetic types of sink holes.
Dokl. AN SSSR 87 No.4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953.
Unclassified.

GOLUBEVA, L.V.

Using spore-pollen analysis to establish the age of karst sinks.
Biol.Kom.chetv.per. no.18:76-86 '53. (MLRA 7:5)
(Pollen, Fossil) (Karst)

GOLUBEVA, I.V.

Chemical composition of waters of some Karst lakes in the Molotov district. Gidrokhim.mat. no.21:81-85 '53. (MLRA 7:3)

1. Yestestvenno-nauchnyy institut pri Molotovskom universitete.
(Molotov district--Lakes) (Lakes--Molotov district)

1. GOLUBEVA, L. V.
2. USSR (600)
4. Karst
7. Density of karst holes in different geomorphological conditions, Dokl. AN SSSR, 90, no. 1, 1953.

Natural Sci. Inst. at Molotov State U. im. Gor'kiy

Presentation of data of 3 typical karst areas of the Prikam'ya region: (1) area formerly the Predural'ye National Park; (2) valley of the lower course (Kungurskiy Rayon) of the Irena River; and (3) valley of the middle course (Ordinskiy Rayon) of the Irena River. Presented by Acad. D. V. Nalivkin 12 Mar 53.

259T51

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

15-1957-10-13705

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,
p 41 (USSR)

AUTHOR: Golubeva, L. V.

TITLE: The Results of Pollen-Spore Analyses of Some Quaternary
Deposits in Kishertskiy Rayon of Molotovskaya Oblast' (Rezul'taty sporovo-pyl'tsevykh analizov neko-
torykh chetvertichnykh otlozheniy v Kishertskom rayone
Molotovskoy oblasti)

PERIODICAL: Izv. Yestestv.-nauchn. in-ta pri Molotovsk. un-te, 1956,
vol 13, Nr 9, pp 175-190

ABSTRACT: The paper cites the results of pollen-spore analyses of
samples collected by hand drilling from the deposits on
the terraces of the Sylva River (the first terrace above
the flood plain in the region of Ust'-Kishert'), the
Kishertka River (the first terrace above the flood plain
and the high flood plain), and the area along the divide
1.5 km northwest of IV. Chastye. Pollen of woody
varieties (birch) predominates among the spores and

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... is of the forest type (mixed
... extending through-
... the total. The entire
... birch below,

CIA-RDP86-00513R00051591

The Results of Pollen-Sport Analyses of Some Quaternary Deposits in
Kishertskiy Rayon of Molotovskaya Oblast. 15-1957-10-13705

conifer and broad-leaved). The content of broad-leaved pollen in the middle part of the section is 16% (more than in drill-hole No. 1). From a study of the pollen, the author has marked out the principal stages in the plant history of the region: 1) a stage of spruce-pine forests; 2) a stage of birch forests, with the broad-leaved varieties becoming more abundant; and 3) a stage of spruce-pine forests. Comparison of the proposed sequence with that proposed for the Holocene of the Middle Urals and the Molotovskoye Prikam'ye (Kama River region near Molotov) indicates a common outline. The author thus refers the deposits described in the present report to the Holocene.

Card 3/3

R. Ye. Giterman

APUKHTIN, N.I.; BOGRETSOVA, T.B.; BOCH, S.G. [deceased]; GENESHIN, G.S.;
GOLUBEVA, L.V.; GROMOV, V.I.; KRASNOV, I.I.; MIKHAYLOV, B.M.;
NIKIFOROVA, K.V.; NIKOLAYEV, N.I.; POKROVSKAYA, I.M.; POPOV, V.V.;
PRINTS, R.N.; RAVSKIY, E.I.; SHANTSER, Ye.V.; EPSHTEYN, S.V.;
YAKOVLEVA, S.V.; FEODOT'YEV, K.M., redaktor izdatel'stva; KASHINA,
P.S., tekhnicheskiy redaktor

[Concise field manual for a comprehensive geological survey of the
Quaternary] Kratkoe polevoe rukovodstvo po kompleksnoi geologicheskoi s"emke chetvertichnykh otlozhenii. Sost. N.I. Apukhtin i dr.
Moskva, 1957. 201 p.
(MLRa 10:9)

1. Akademiya nauk SSSR. Geologicheskii institut. 2. Moskovskiy geologo-razvedochnyy institut (for Shantser). 3. Geologicheskii institut Akademii nauk SSSR (for Nikiforova, Ravskiy, Golubeva)
3. Vsesoyuznyy Nauchno-issledovatel'skiy geologicheskii institut Ministerstva geologii i okhrany nedr SSSR (for Geneshin, Bogretsova, Mikhaylov). 4. Voenno-inzhenernaya akademiya im. Kuybysheva (for Popov). 5. Treest "Mosgeolnerud" (for Prints). 6. Severo-Zapadnoye geologicheskoye upravleniye (for Apukhtin)
(Geology, Stratigraphic)

AUTHOR:

Golubeva, L. V.

20-114-3-53/60

TITLE:

On the Significance of Determining the Pollen of Different Species of the Genus *Betula* L. for Stratigraphic Purposes of Quaternary Deposits (K voprosu o znachenii, opredeleniya pyl'tsy vidov roda *Betula* L. dlya tseley stratigrafii ochetvertichnykh otlozheniy)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 3, pp. 645-647 (USSR)

ABSTRACT:

The composition of the spore-pollen spectra of the Quaternary sediments of many Northern districts shows that during the Quaternary birches played a substantial part in the formation of the flora. While studying these spectra in the Northern part of the West Siberian plains, the author of the paper under review felt it necessary to determine also the birch species. The reason for this is the fact that solely determinations of the genus of the pollen as far as the genus is concerned do not make it possible to determine the flora type correctly. The relative climatic changes in this area found their expression in changes in the types of the forest and of the tundra. On the basis of the rich occurrence of

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20-114-3-53/60
On the Significance of Determining the Pollen of Different Species of the Genus *Betula* L. for Stratigraphic Purposes of Quaternary Deposits

birch pollen alone it was difficult to decide whether the spectra under investigation reflected forests or an open landscape. Among birches there exist both trees and shrubs, among the latter some are small as, for instance, the *Betula nana*. Determination of the species of the birches has often made it necessary to modify earlier conclusions and thus either to obtain a more accurate picture, or to revise the existing picture, of the stratigraphic position of the one or the other level. The author of the paper under review succeeded in determining the pollen of *B. pubescens*, *vurruco-sa*, *nana* and *humilis*. In such a determination, it is essential to pay great attention to the entirety of the morphological characteristics. The size of the pollen, being dependent on different causes and being most variable, is less important. The author of the present paper employed in her investigations the acetolytic working method (mixture of acetal aldehyde and sulphuric acid). The present paper lists some examples in order to demonstrate the necessity of determining the species. In cases of poor preservation where it is impossible to determine the species it would be necessary at least to single out sections, as in this case *Nanae*

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On the Significance of Determining the Pollen of Different Species of the
Genus Betula L. for Stratigraphic Purposes of Quaternary Deposits 20-114-3-53/60

Rgl. (birch shrubs) and Albae Rgl. (birch trees). Determination of different birch species has already found its way into the practical spore-pollen analysis. It would be of advantage to continue investigations in this direction. There are 1 figure and 3 references, 1 of which is Soviet.

ASSOCIATION: Geological Institute AS USSR
(Geologicheskii institut Akademii nauk SSSR)

PRESENTED: December 7, 1956, by V. N. Sukachev, Member of the Academy

SUBMITTED: December 6, 1956

Card 3/3

GOLUBEVA, L.V.

Paleophytological evidence stratigraphy of quaternary deposits of the
northwestern regions of the West Siberian Plain. Dokl. AN SSSR
117 no.1:115-116 N-D '57. (MIRA 11:3)

1. Geologicheskii institut AN SSSR. Predstavleno akademikom N.S.
Shatskim.

(West Siberian Plain--Geology, Stratigraphic)

GOLUBEVA, L.V.

~~Stratigraphic plan of Quaternary sediments in the northwestern part of the West Siberian Plain and its paleophytologic basis.~~

Izv. AN SSSR. Ser. geol. 23 no.2:44-54 F '58.

(MIRA 11:5)

1.Geologicheskij institut AN SSSR, Moskva.

(West Siberian Plain--Geology, Stratigraphic)

GOLUBEVA, L. V.: Master Geolog-Mineralog Sci (diss) -- "The paleophytological principles of the stratigraphy of Quaternary deposits of the northwest portion of the west-Siberian lowland (The basin of the lower course of the Ob')". Moscow, 1959. 17 pp (Acad Sci USSR, Geol Inst), 140 copies (KL, No 17, 1959 , 106)

RAVSKIY, E.I.; GOLUBEVA, L.V.

Eopleistocene of the Tunka Depression. Dokl. AN SSSR 135 no.5:1207-1210 D '60. (MIRA 13:12)

1. Geologicheskii institut AN SSSR. Predstavleno akademikom N.S. Shatskim.

(Tunka Depression—Geology, Stratigraphic)

GOLUBEVA, L.V.; RAVSKIY, E.I.

Quaternary of Tunkinskiye troughs. Trudy Kom.chetv.per. 19:240-
259 '62. (MIRA 16:1)
(Tunkinskiye Gol'tsy Range—Geology, Stratigraphic)

ZAKLINSKAYA, Yelena Dmitriyevna; VAKHRAMEYEV, V.A., red.; GOLUBEVA, L.V., red.;
CHEPIKOVA, I.M., red.; izd-va; KASHINA, P.S., tekhn.red.

[Angiosperm pollen and its significance for the stratigraphy of the
Upper Cretaceous and Paleogene] Pyl'tsa pokrytosemiannykh i ee znachenie
dlia obosnovaniia stratigrafii verkhnego mela i paleogena. Moskva,
Izd-vo Akad. nauk SSSR, 1963. 255 p. fold. diags. inserted. (Akademiia
nauk SSSR. Geologicheskii institut. Trudy no.74). (MIRA 16:10)

ALEKSANDROVA, L.P.; VANGENGHEYM, E.A.; GERBOVA, V.G.; GOLUBEVA, L.V.;
RAVSKIY, E.I.

New data on a section of Quaternary sediments of Mount Tologoy
(western Transbaikalia). Biul.Kom.chetv.per. no. 28:84-101 '63.
(MIRA 17:5)

GITERMAN, R.Ye.; GOLUBEVA, L.V.; ZAKLINSKAYA, Ye.D.; KORENEVA, Ye.V.;
MATVEYEVA, O.V.

Features of the vegetation cover of Kazantseva Interglacial
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1. Geologicheskii institut AN SSSR. Predstavleno akademikom
V.N. Sukachevym.

RAVSKIY, E.I.; ALEKSANDROVA, L.P.; VANGENCEYM, E.A.; GERBOVA, V.G.;
GOLUBEVA, L.V.; PEYVE, A.V., glavnyy red.; NIKIFOROVA, K.V.,
otv. red.; KUZNETSOVA, V.V., red.; TIMOFEYEV, P.P., red.

[Quaternary sediments in the south of Eastern Siberia.]
Antropogenovye otlozheniia iuga Vostochnoi Sibiri. Moskva,
Nauka 1964. 279p. (Akademiia nauk SSSR. Geologicheskii
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GOLUBEVA, L.V.; RAVSKIY, E.I.

Climatic time phases of the Zyryanka glaciation in Eastern
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(MIRA 17:8)

GOLUBEVA, L.V. ..

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1. Geologicheskii institut AN SSSR. Predstavleno akademikom V.N.
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GITERMAN, R. Y. E.; GOLUBEVA, L. V.

"Developmental history of the vegetation of eastern Siberia during the Anthropogene Period."

report submitted for the 7th Intl Cong, Intl Assoc for Quaternary Research,
Boulder & Denver, Colorado, 30 Aug-5 Sep 65.

GITERMAN, R.Ye.; GOLUBEVA, L.V.; KORENEVA, Ye.V.; MATVEYEVA, O.V.

Characteristics of the vegetative cover of the Zyryanka glacial
period in Siberia. Izv. AN SSSR. Ser. geol. 30 no.3:115-128
Mr '65. (MIRA 18:3)

1. Geologicheskii institut AN SSSR, Moskva.

VISHNEVSKIY, A.S., prof.; KHODYKIN, A.V., kand.med.nauk; Primali uchastiye:
GLUSHKO, B.I., vrach; CHVAMANIYA, A.Ye., vrach; TURANSKAYA, A.G.,
vrach; LEVITSKAYA, A.S., vrach; GOLUBEVA, L.V., vrach.

Use of cortisone and dehydrocortisone in the treatment of severe
hepatitis and liver cirrhosis. Vrach. delo no.8:35-38 Ag '61.

(MIRA 15:3)

1. Kurortnaya poliklinika, Yessentuki.
(CORTISONE)
(LIVER--DISEASES)

GOLUBEVA, L. Ya

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"Electrophysiological Analysis of Certain Types of Cortical Inhibition in the Rabbit." Inst of Higher Nervous Activity, Acad Sci USSR. Moscow, 1955.
(Dissertation for the degree of Candidate in Biological Sciences)

SO: Knizhnaya letopis' No. 27, 2 July 1955

STEPANYAN-TARAKANOVA, A.M., doktor med.nauk, GOLUBEVA, L.Ya., kand.biol.nauk
ZIKHEYVA, V.K., (Moskva)

Role of the nervous system in the pathogenesis of various forms of
obesity and the changes produced by medical diet. [with summary
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M.N. Yegorov) kliniki lechebnogo pitaniya (zav. - prof. F.K. Men'shikov)
i laboratorii vysshey nervnoy deyatel'nosti (zav. - prof. A.I.
Makarychev) Instituta pitaniya AMN SSSR (dir. - chlen-korrespondent
AMN prof. O.P. Molchanova).

(OBESITY, etiol. & pathogen.

NS disord., speical diet ther. (Rus))

(NERVOUS SYSTEM, dis.

in obesity, speical diet. ther. (Rus))

(DIETS, in various dis.

obesity caused by NS disord. (Rus))

GOLUBEVA, L. Ya.

Reflection of inhibition in animal electroencephalograms. Trudy Inst.
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1. Iz laboratorii elektrofiziologii usloynykh reflektov, zav. -
M. N. Livanov.

(ELECTROENCEPHALOGRAPHY)
(INHIBITION)

STEPANYAN-TARAKANOVA, A.M.; GOLUBEVA, L.Ya.; ZIKEYEVA, V.K.; KURTSIN', O.Ya.
TIKHOMIROVA, A.N.; MASLENIKOVA, Ye.M.; SOROKIN, G.Ye.;
ZAKHARYCHEVA, A.A.

Effect of combined therapy on patients with the cerebroendocrine
form of obesity. Vop. pit. 18 no. 6:16-24 N-D '59. (MIRA 14:2)

1. Iz Instituta pitaniya AMN SSSR, Moskva.
(CORPULENCE) (GLUTAMATES) (CORTISONE)

MAKARYCHEV, A.I. [deceased]; LEVITSKIY, L.M.; GOLUBEVA, L.Ya.;
ROSHCHINA, L.F.

Cerebral cortex dynamics in patients with obesity during
various stages of treatment. Vop. pit. 21 no.2:41-47 Mr-Apr '62.
(MIRA 15:3)

1. Iz kliniki lechebnogo pitaniya (zav. - doktor meditsinskikh
nauk L.M. Levitskiy) i laboratorii vysshey nervnoy deyatel'nosti
(zav. - prof. A.I. Makarychev [deceased]) Instituta pitaniya
AMN SSSR, Moskva.

(OBESITY)

(CEREBRAL CORTEX)

KUSHNIR, N.P.; GOLUBEVA, M.B., tekhnik; VIDREVICH, Ya.V., inzh.-ekonomist;
SHAPOVAL, L.Ya., inzh.; ARISTOV, P.I., kand. tekhn. nauk;
CHARTARYAN, A.M.; SERGACHEVA, M.

Book reviews and bibliography. Tekst. prom. 25 no.5:87-94
My '65. (MIRA 18:5)

1. Starshiy inzh. nauchno-issledovatel'skoy laboratorii
Kineshenskoy fabрики No.2 (for Kushnir). 2. Nauchno-issledovatel'-
skaya laboratoriya Kineshenskoy fabрики No.2 (for Golubeva).
3. Byuro tekhnicheskoy informatsii Darnitskogo shelkovogo
kombinata (for Shapoval). 4. Nauchnyy rukovoditel' Ivanovskogo
nauchno-issledovatel'skogo instituta khlopchatobumazhnoy
promyshlennosti (for Aristov). 5. Nachal'nik otdela tekhnicheskogo
kontrolya Leninskanskoy pryadil'noy fabрики (for Chartoryan).

Colorimetric determination of copper with the sodium diethylthiocarbamate reagent. M. Golubeva, *Gigiena i Sanit.* 11, No. 5, 30-33 (1945).--The method of Callan and Henderson (C.A. 24, 312) gave good results in the detn. of Cu in human-colored natural waters and, with certain modifications, also in water contg. Fe, Al, Zn, and Pb. The water was almost decolorized (the original color value decreased from 40 (6) to 2-8") by treatment with an $\text{Al}(\text{NH}_4)_2$ soln. and alkalization. The pH should be 4-4.5; variation to 3.0 or 5.0 causes adsorption of Cu by the excess $\text{Al}(\text{OH})_3$ formed in the reaction. Treatment with $(\text{NH}_4)_2\text{S}_2\text{O}_8$ lowered the color value from 30-50 to 2-4 without affecting accuracy. Excess of Rochelle salt, used to remove both Fe and Al, does not affect the results. Removal of Fe and Al as hydroxides (as suggested in the original carbamate procedure) leads to loss of Cu during filtration owing to adsorption. When water contains Zn or Pb, a white ppt. or turbidity develops on addn. of the carbamate reagent. In presence of Rochelle salt and starch no ppt. or turbidity appears at Zn and Pb concns. of 100 and 1 mg./l. Addn. of a 25% NH_4OH soln. instead of the 1:5 diln. prescribed in the original procedure, permits a Zn content up to 1000 mg./l. without affecting the analysis. To a 50-cc. sample of water add one cc. of a 50% Rochelle salt soln., 5 cc. of NH_4OH soln. (1:5), 1 cc. of a clear 0.4% soln. of starch, and 5 cc. of a 0.1% soln. of Na diethylthiocarbamate. After after each

addn. and compare with a standard contg. 0.01-1.0 mg./l. of Cu. To decolorize the water, introduce into an Erlenmeyer flask 50 cc. of sample. Add 2.5 cc. of a 10% $(\text{NH}_4)_2\text{S}_2\text{O}_8$ soln., dil. with H₂O to 70-80 cc., and heat 30-40 min. until the water is colorless and the precipitate is decempal. Transfer to a Nessler cylinder. Cool, dil. to 50 cc. Treat as above and compare with standard. In the presence of Zn (over 100 mg./l.), replace the dil. NH_4OH by 5 cc. of a 25% soln. In the presence of Pb (over 1 mg./l.), place a 100 cc. sample of water in a tall cylinder, add 4 cc. of a 25% NH_4Cl soln. and 1 cc. of $\text{N Na}_2\text{CO}_3$, then 10 cc. of a 25% NH_4OH soln. and 1 cc. of $\text{N Na}_2\text{CO}_3$. Stir and let stand until the ppt. settles. Siphon off the supernatant fluid and det. Cu in this soln. as above, except that NH_4OH is not added. Correction must be made for diln. in removal of Pb.

C. S. Shapiro

BERGMAN, A. G., СЛУБЕНА, М. С.

Salts, Double

Formation of complexes of the type of double hetero-salts(anhydride kainites) in ternary reciprocal systems. Dokl. AN SSSR 89, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress
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Golubeva, M.S.

✓ Irreversibly reciprocal system of chlorides and oxides of lithium and strontium. M. S. Golubeva and A. G. Bergman (State Univ., Rostov-on-Don). ~~Zhur Obshch. Khim.~~ 25, 458-63 (1953); J. Gen. Chem. U.S.S.R. 25, 427-32 (1955) (Engl. translation).—The system is irreversibly reciprocal without complex formation. According to the magnitude of the thermal effect (0.47 kcal./g. equiv.) the system should be reversible, but exptl. data are to the contrary. There is also a discrepancy between the direction of exchange reaction shift and thermal effect. The exptl. shift is in the direction of $\text{SrSO}_4\text{-LiCl}$. There is great similarity to the Li, Ca/Cl, SO_4 system because of similar ionic radii, charges, and structure of electron layers.

V. N. Bednarski

GOLUDEV, M.S.

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COLUBEVA, M.S.; BERGMAN, A.G.; GRIGOR'YEVA, Ye.A.

Ternary reciprocal systems consisting of: 1) potassium and sodium acetates and thiosulfates, and 2) thiocyanates and thiosulfates of the same metals. Uch.zap. RGU 41:145-154 '58. (MIRA 15:1)
(Systems (Chemistry))

05884

5(2)

SOV/78-4-11-37/50

AUTHORS: Golubeva, M. S., Aleshkina, N. N., Bergman, A. G.

TITLE: The Melting Diagram of the Ternary Systems of Sodium- and Potassium Acetates, Rhodanides and Thiosulphates

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 11, pp 2606-2610 (USSR)

ABSTRACT: The reason for investigating these systems was the necessity of finding low-melting baths for sulphidizing the surface of metal products. The binary system $(\text{NaCNS})_2 - (\text{CH}_3\text{COONa})_2$ forms a eutectic. The binary systems $(\text{NaCNS})_2 - \text{Na}_2\text{S}_2\text{O}_3$ and $(\text{CH}_3\text{COONa})_2 - \text{Na}_2\text{S}_2\text{O}_3$ could not be investigated since the components decompose on heating before they are melted. The ternary system $\text{Na}^+ \parallel \text{CNS}^-$, $\text{S}_2\text{O}_3^{2-}$, CH_3COO^- (Table 1, Figs 1, 2) has three crystallization fields of its components meeting in the eutectic point at 222° and the composition of 32% $(\text{CH}_3\text{COONa})_2$, 40% $(\text{NaCNS})_2$, 28% $\text{Na}_2\text{S}_2\text{O}_3$. In the binary system $(\text{KCNS})_2 - (\text{CH}_3\text{COOK})_2$, the compound $2\text{KCNS} \cdot \text{CH}_3\text{COOK}$ melting at 134°

Card 1/2

The Melting Diagram of the Ternary Systems of
Sodium- and Potassium Acetates, Rhodanides and Thiosulphates

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is formed. The system $(\text{KCNS})_2 - \text{K}_2\text{S}_2\text{O}_3$ could only be investigated - because of decomposition of the organic component on heating - up to a content of 35% $\text{K}_2\text{S}_2\text{O}_3$, the system $(\text{CH}_3\text{COOK})_2 - \text{K}_2\text{S}_2\text{O}_3$ only up to a content of 25% $\text{K}_2\text{S}_2\text{O}_3$. The ternary system $\text{K}^+ \parallel \text{CNS}^-$, $\text{S}_2\text{O}_3^{2-}$, CH_3COO^- (Fig 3, Table 2) forms four crystallization fields, three of the components and one of the compound $2\text{KCNS} \cdot \text{CH}_3\text{COOK}$. The two ternary systems could not be completely investigated either, since the thermal stability decreases with an increasing thiosulphate content, and decomposition occurs. There are 5 figures, 2 tables, and 2 Soviet references.

SUBMITTED: June 16, 1958

Card 2/2

GOLUBEVA, M.S.; GABRILENKO, Z.I.

Ternary reciprocal system consisting of potassium and
strontium chlorides and sulfates. Zhur. neorg. khim.

5 no. 12:2812-2818 D '60.

(MIRA 13:12)

(Potassium chloride)

(Strontium chloride)

(Potassium sulfate)

(Strontium sulfate)

GOLUBEVA, M.S.; MEDVEDEV, B.S.

Ternary reciprocal system consisting of lithium and nickel
chlorides and sulfates. Zhur.neorg.khim. 7 no.11:2600-2603
N '62. (MIRA 15:12)

(Fused salts)
(Systems (Chemistry))

BC G-OLVESVN, H.T. a-1

Colorimetric determination of aluminium with
 hematocyanin. M. T. GOLLOVA (J. Appl. Chem.
 Russ., 1934, 8, 1144-1146).—Hatschek's method (A.,
 1934, H, 200) gives satisfactory results with coloured
 as well as colourless hematocyanin. It serves for
 determination of 0.005—0.9 mg. of Al per litre of H₂O
 (error ± 4%). Ca and Mg affect the colour obtained.
 Low results are obtained when the Al is in the form of
 hydroxide. R. T.

AND ILS METALLURGICAL LITERATURE CLASSIFICATION

SECTION	SUBSECTION	SECTION	SUBSECTION
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C O L U B E V A , M . T .		14	
CA			
<p>Coagulation of natural waters with aluminum sulfate at low temperatures. B. A. Skopintsev and M. T. Golubeva. <i>Vodosnabzhenie i Sanit. Tekh.</i> 1938, No. 10, 45-54; <i>Khim. Referat. Zhur.</i> 2, No. 3, 102 (1939); cf. C. A. 33, 7440. — In expts. with Moscow River water at temps. of 2° and of 17-19°, the effects of the dose of the coagulant, alky. of water, mixing of water, presence of turbidity, addn. of lime and addn. of Muttovskii alumina were investigated. Hydrolysis of the added $Al_2(SO_4)_3$ also was investigated. The most effective methods for the formation of flakes at low temp., which at the same time sufficiently purify the water, are mixing, addn. of an artificial suspension in the form of clay turbidity or of milk of lime, and the addn. of Muttovskii alumina. During the introduction of the suspension it is necessary to add exact amts. of the substance since an excess of the clay turbidity causes a considerable lowering of the clearness of the coagulated water, while an excess of CaO causes an increased pH of the water and an accumulation of Al. W. R. Henn</p>			
<p>ASO 11A METALLURGICAL LITERATURE CLASSIFICATION</p>			

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GOLUBOVA, N. T.																																																																													
<p>Removal of copper from natural water. B. A. Skopintsev and M. T. Golubeva. <i>J. Applied Chem.</i> (U. S. S. R.) 12, 813-17 (in French, 817) (1939). Sol. Cu can accumulate in natural water on treatment with CuSO_4. The Cu can be removed by treatment with $\text{Al}_2(\text{SO}_4)_3$.</p> <p>$\text{Al}_2(\text{SO}_4)_3$ (optimal pH 7.0-8.0); however, large amts. of this salt cause an increase of acidity of the treated water and this decreases the Cu removal. The Cu can be removed by filtration through the sand filter; the process has all the characteristics of sorption filtration. Washing the used sand filter with Cu-free water removes Cu from the filter but much more slowly than it is adsorbed. Suspended substances such as clay, sand, chalk, activated C and plankton organisms remove some of Cu, but the effect is much smaller. A. A. Polozov</p>																																																																													
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<p>6.6</p> <p>THE REMIDAL ALUMINUM. B. A. Skopintsev and M. T. Golubeva. <i>Vodopriemshenie i Sost. Tekh.</i> 15, No. 7, 40-4 (1967). The residual Al entering the water supply is the result of unsatisfactory coagulation. Insufficient alum will favor the formation of stable colloidal $Al(OH)_3$, and an excess will retard the flocculation; this reduces pH to below 5.0 and causes partial soln. and insufficient utilization of the coagulant. Low temp. will also cause residual Al. Where lime is added careful dosing is important. Increased pH above 7.0 will lead to the formation of sol. aluminates. References. B. Gutloff</p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

1ST AND 2ND COLUMNS		3RD AND 4TH COLUMNS	
PROCESSES AND PROPERTIES INDEX			
<p>Reduction of aluminum concentration in weak solutions of aluminum salts during storage and filtration. M. T. Golubaya and B. A. Skopintsev, <i>Zavodskaya Lab.</i> 10, 317-18 (1941).—During the storage of weak solns. of $Al_2(SO_4)_3$ (0.1-10 mg. $Al/l.$) in glass vessels there was observed in some cases a loss of Al owing to the leaching out of the glass. Prior acidification of the solns. to a pH of 2.0 and washing of the filters with this soln. before filtration eliminates the losses during storage and filtration.</p> <p>B. Z. Kamich</p>			
<p>ASR-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
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GOLUBEVA, M. T.

Determination of tetranitropentaerythrite in water. Gig. sant.
Moskva no. 5:47-49 May 1952. (CLML 22:3)

1. Of the State Scientific-Research Sanitary Institute imeni F.
F. Erisman.

DRACHEV, S.M., prof.; RAZUMOV, A.S.; SKOPINTSEV, B.A.; KABANOV, N.M.;
BRUYEVICH, S.V.; SOSUNOVA, I.N.; GOLUBEVA, M.T.; BRUK, Ye.S.;
MOGILEVSKIY, Ya.A.; RUFFEL', M.A.; KORSH, L.Ye.; ANOKHIN, V.L.;
BYLINKINA, A.A.; MEL'NIKOV, Ye.B., red.; BEL'CHIKOVA, Yu.S.,
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